

Sub B17

1. An apparatus for positioning an object comprising:

a first section having a lifting mechanism capable of movement in a vertical direction;

a second section disposed over said lifting mechanism capable of moving corresponding to said lifting mechanism, said second section having a first sliding mechanism capable of movement in a first horizontal direction; and

a third section disposed over said sliding mechanism capable of moving in response to movement of said sliding mechanism and said lifting mechanism, said third section having a surface for supporting an object.

Sub C17

2. The apparatus according to claim 1 wherein said lifting mechanism comprises a jacking screw mechanism.

3. The apparatus according to claim 1 wherein said lifting mechanism comprises a gas cylinder assembly.

4. The apparatus according to claim 1 wherein said lifting mechanism comprises a jacking screw mechanism and a gas cylinder assembly.

5. The apparatus according to claim 1 wherein said sliding mechanism comprises a lead screw and block mechanism.

sub B2 6. The apparatus according to claim 5 wherein said sliding mechanism further comprises slider blocks having slide rails.

sub C1 7. The apparatus according to claim 3 further comprising a pressurized gas source for said gas cylinder assemblies.

8. The apparatus according to claim 1 wherein said lifting mechanism comprises hydraulic cylinder assemblies.

9. The apparatus according to claim 8 further comprising a pressurized hydraulic fluid source for said hydraulic cylinder assemblies.

10. The apparatus according to claim 1 wherein said first section comprises wheels for moving said apparatus in a second horizontal direction perpendicular to said first horizontal direction.

sub B3 11. The apparatus according to claim 11 wherein said first section further comprises a clearance between said first section and an underlying surface whereby said apparatus can clear obstacles when moving in said second horizontal direction.

sub C1 12. The apparatus according to claim 1 further comprising a second sliding mechanism over said third section capable of motion in a second horizontal direction perpendicular to said first horizontal direction, and a fourth section disposed over said

9 second sliding mechanism capable of motion in said vertical direction, first horizontal direction and second horizontal direction.

Amended 13. An adjustable support for positioning a piece of equipment comprising:

a base frame, a first section, and a second section;

a lifting mechanism disposed between said base frame and said first section for lifting and lowering said first section in a vertical direction with respect to said base frame; and

a first sliding mechanism disposed between said first section and said second section for sliding said second section with respect to said first section, said sliding occurring in a direction perpendicular to said vertical direction, said second section having a surface to support a piece of equipment.

14. The support according to claim 13 wherein said lifting mechanism comprises a jacking screw mechanism.

15. The support according to claim 13 wherein said lifting mechanism comprises a gas cylinder assembly.

16. The support according to claim 13 wherein said lifting mechanism comprises a jacking screw mechanism and a gas cylinder assembly.

Sub C17 17. The support according to claim 13 wherein said sliding mechanism comprises a lead screw and block mechanism.

18. The support according to claim 17 wherein said sliding mechanism further comprises slider blocks having slide rails.

Sub D57 19. The support according to claim 15 further comprising a pressurized gas source for said gas cylinder assemblies.

Sub E17 20. The support according to claim 13 wherein said lifting mechanism comprises hydraulic cylinder assemblies.

21. The support according to claim 20 further comprising a pressurized hydraulic fluid source for said hydraulic cylinder assemblies.

22. The support according to claim 13 wherein said base frame further comprises wheels for translating said support along an underlying surface.

23. The apparatus according to claim 22 wherein said base frame further comprises a clearance between said base frame and said underlying surface such that said apparatus can bypass obstructions when translating along said underlying surface.

C1 24. The support according to claim 13 further comprising a third section containing a second sliding mechanism disposed over said second section, said second sliding mechanism being operable to move said third section in a direction different than the direction of the first sliding mechanism, said third section having a surface for supporting said piece of equipment.

Sub B67 25. An apparatus for supporting an object, said apparatus having a mechanism for lifting and lowering the object in a vertical direction and a separate mechanism for sliding an object in a first horizontal direction, said apparatus having wheels for rolling along a surface in a second horizontal direction orthogonal to said first horizontal direction.

Sub C17 26. The apparatus according to claim 25 wherein said lifting mechanism comprises a jacking screw mechanism.

27. The apparatus according to claim 25 wherein said lifting mechanism comprises a gas cylinder assembly.

28. The apparatus according to claim 25 wherein said lifting mechanism comprises a jacking screw mechanism and a gas cylinder assembly.

29. The apparatus according to claim 25 wherein said sliding mechanism comprises a lead screw and block mechanism.

30. The apparatus according to claim 29 wherein said sliding mechanism further comprises slider blocks having slide rails.

Subc17 31. The apparatus according to claim 27 further comprising a pressurized gas source for said gas cylinder assemblies.

32. The apparatus according to claim 25 wherein said lifting mechanism comprises hydraulic cylinder assemblies.

33. The apparatus according to claim 32 further comprising a pressurized hydraulic fluid source for said hydraulic cylinder assemblies.

Subc17 34. An apparatus for positioning an object comprising:  
a support frame having wheels for rolling said apparatus in a first horizontal direction;  
a lifting and lowering mechanism disposed over said support frame, said lifting and lowering mechanism comprising at least four jacking screws having a transmission system for operation of said jacking screws, said lifting and lowering system further comprising at least two gas cylinders having a pressurized gas source for operating said gas cylinders, wherein said gas cylinders assist said jacking screws in said lifting and lowering mechanism;  
a first plate connected to said lifting and lowering mechanism such that said lifting and lowering mechanism imparts motion to said first plate;

a sliding mechanism disposed over said first plate, said sliding mechanism comprising a block having a transmission system for moving said block a second horizontal direction perpendicular to said first horizontal direction;

a second plate disposed over said sliding mechanism and attached to said block such that said sliding mechanism, said lifting and lowering mechanism, and the rolling of said wheels impart motion to said second plate, said second plate having a surface for supporting an object.

35. A method for positioning an object comprising:

providing a table having a support section adapted to move vertically and horizontally;

placing an object on said support section;

moving said table toward a desired destination for said object;

operating a lift mechanism to move said support section vertically;

operating a slide mechanism to move said support section horizontally;

said object being positioned in a desired location by said moving and operating actions.

36. The method according to claim 35 wherein operating said lift mechanism comprises manually rotating an input shaft attached to jacking mechanisms.

37. The method according to claim 35 wherein operating said lift mechanism comprises supplying a pressurized gas to gas cylinder assemblies.

38. The method according to claim 35 wherein operating said lift mechanism comprises manually rotating an input shaft attached to jacking mechanisms and supplying a pressurized gas to gas cylinder assemblies.

39. The method according to claim 35 wherein operating said slide mechanism comprises manually rotating a shaft attached to a lead screw.

40. The method according to claim 35 wherein moving said table comprises rolling said table utilizing wheels.

41. A method for transferring an object comprising:  
providing a base frame, a top frame, and a middle frame disposed between said base frame and said top frame;

providing a lift mechanism between said base frame and said middle frame;

providing a slide mechanism between said middle frame and said top frame;

placing said object on said top frame; and

operating said lift mechanism and said slide mechanism to deliver said object to a desired position.



42. The method according to claim 41 wherein operating said lift mechanism comprises manually rotating an input shaft attached to jacking mechanisms.

43. The method according to claim 41 wherein operating said lift mechanism comprises supplying a pressurized gas to gas cylinder assemblies.

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44. The method according to claim 41 wherein operating said lift mechanism comprises manually rotating an input shaft attached to jacking mechanisms and supplying a pressurized gas to gas cylinder assemblies.

45. The method according to claim 41 wherein operating said slide mechanism comprises manually rotating a shaft attached to a lead screw.

46. The method according to claim 41 further comprising rolling said base frame utilizing wheels.